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Working conditions in projects: perceptions of stress and motivation among project team members and project managers

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Abstract

The emergence of temporary and democratic work forms characterizes work today and organisations to a great extent rely on individuals' performance. Workers' perceptions of working conditions are affected by two important factors: motivation and stress. Projects are motivating due to clear goals, but they are also often time pressured. Incidents like, for example, loss of resources, changing preferences or priorities, or project closure might provoke changes to the set goals, to which individuals have committed. This could obstruct effective goal fulfilment as well as create stress among the people involved. How do project managers and project team members perceive incidents that the typical project encounters? How do they cope with uncertainties the incidents bring about? The finding suggests that incidents cause changes over the project lifecycle, both of goals and of individuals' perceptions of tasks, conditions, and the situation. Different coping strategies are used to reduce uncertainty and stress.

Keywords: Projects; Working conditions; Motivation; Stress; Coping; Project priority triangle; Incidents; Perception; Uncertainty; Project success measures

1. Introduction

The use of project teams is a clear trend in businesses and organizations [1]. All over the world, projects have become a means to enhance organizational performance and competitiveness. The theoretical field of project management rests heavily on normative techniques and methods of project planning and control developed during the industrialist period [2], which has resulted in rather universal insights. However, by definition each project is unique [3], and even if this uniqueness has been questioned [4], projects have been researched into separately. When many organisations base all of their operations on projects, the field of project management could benefit from further development of the understanding of concepts in the different contexts the field represents. Interesting examples of case study approaches are cases by Gersick [5], and Gersick and Eisenstat [6].

Projects are often said to be motivating due to set terms and clear goals. Still, work on projects tends to involve tight deadlines, implying high pressure on the participants involved. Thus, individuals' perceptions of the situation ought to change when incidents happen that might affect the project. Assumingly, the project participants experience both motivation and stress in the course of the project. This urges a better understanding of the working conditions in these environments.

The purpose of this article is to investigate what type of incidents projects encounter and how project managers' and team members' perceptions of motivation and stress are affected by these incidents.

2. The conceptual framework

Work motivation is a term commonly used by both practitioners and researchers to explain the intensity, direction, and persistence of individuals towards work. Motivation could be viewed as a personal inner state. Pinder [7] defines work motivation as "a set of energetic forces that originate both within as well as beyond an individual's being to initiate work-related behaviours, and to determine its form, direction, intensity, and duration" (p. 11).

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Project participants are motivated by the challenge of reaching set goals, but at the same time tight completion dates put pressure on them. However, a negative effect on individuals' health only occurs if pressure is not experienced as a challenge [8]. Hence, these experiences could work positively effective to goal fulfilment, but could also become destructive.

Previous studies on motivation and stress in projects are quite rare and primarily examine managerial skills [9], how project managers should motivate project members [10], and project managers' workload [11]. Apart from the tensions between motivation and stress, projects encounter issues that could negatively affect the working conditions for individuals involved. Unexpected incidents happen, and some of these affect the individual's perceptions of the working conditions, as they might be de-motivating in some way. Still, motivation is the driving force that supports individuals in their efforts to reach project objectives. Additionally, the impact of goals is vital when it comes to motivating people [3,12], as is the talk about successful projects [13]. So, almost like magic, projects seem to promote motivation.

Further, the project priority triangle, i.e. time, cost and performance, is said to be the cornerstone of project management [14], and its importance for planning, organization and control of projects has been widely proven. It is to some extent acknowledged that the time focus within projects is positively motivating initially, even if time limits could be de-motivating due to experiences of pressure [8]. Thus, the priority triangle lays the foundation for the formation of the project goal. This goal not only creates clarity as to what the project is to bring about but also involves stability for project participants. Many of the discussions on project success and failure [15] have concerned the components of the priority triangle [14,16]. However, projects might be regarded as failures or successes dependent on how measurement is done and which criteria are judged. Assessing and measuring success factors, involves both subjective and objective measurements, implying that individuals could interpret measures differently [17]. Independent of any measurement, different incidents in the project or its environment might affect the project outcome. Such incidents can affect the priory triangle in the sense that the project has to react to them [18]. These reactions imply that priorities change or risk being affected [19]. Even though priorities change over the project lifecycle, a project's participants and stakeholders have committed themselves to the original goals. Furthermore, incidents might reduce motivation [20] and provoke considerable stress [21] due to concerns about not reaching the deadline and determined goal. Consequently, project participants' will worry about how the situation is going to change.

Uncertainty is part of any project [22]. This uncertainty and the particularity of projects stands in contrast to psychologists' findings of the human need for stability and continuity in life (cf. [23]). The degree of reliance on such stability differs between individuals, but the effort to try to satisfy this need for continuity in work life is common to everybody though. Incidents that disrupt stability might be perceived as stressors and could generate feelings of inadequacy, decrease self-confidence and, thereby, cause negative health effects [23]. People have to adapt in order to cope with stress of this kind. Individual coping involves constant adjustment of cognitive and behaviour efforts to meet or manage uncertainty. People have to feel that managing these demands is important, and simultaneously that these demands exceed their individual capacity [24]. Coping could also be regarded as a problem solving strategy [25], which corresponds with how much of the work is done in projects. Thus, the project organization as such continuously has to adjust to its environment as well. Schein [26] discusses organizational coping as a cyclical process and argues that the possibility of maintaining an organization's efficiency depends on successful coping.

To sum up, various incidents may change the project goals, the project processes or the project organization. So, incidents could negatively affect the participants' perception of their working conditions.

Setting out to explore what type of incidents projects encounter that negatively affect the perceptions of working conditions, the following section will state how this study has been conducted.

3. The method used in this study

This study rests upon data from a combination of semi-structured and un-structured interviews with both project managers and project team members from five different cases within the IT-consulting and telecommunication industries. The interviewees all have between 4 and 13 years of experience in project work. The sample consists of 10 individuals, five project managers and five project team members, and their companies all base operations on multiple simultaneous projects. Issues like incidents emerged from content analysis and stem rather from the respondents' choice of topics in the open-ended interviews than specific questions.

4. Empirical findings

Based on the above, this section presents a description of issues and concerns of the project managers and team members interviewed.

4.1. General findings on motivation and stress over project lifecycles

Project managers and team members participating in the study perceived both motivation and stress throughout the duration of the projects that they are and have been involved in. According to them, the level of motivation and stress varies over a project's lifecycle. One of the team members expressed it like this: *"... At the start-up we [the project team] usually are really enthusiastic and motivated..."* This challenge is perceived really motivating. *"I really wanted to join in"* as another of the team members said. If the project has strategic value and is given priority on beforehand, the project mission is perceived even more motivating and challenging. The project can bring about prestige. According to one of the interviewed project managers: *"... Some projects are more—beneficial to have taken part in..."* But on the other hand, if the project is shut down halfway or after closure evaluated as less successful or as a true failure, issues that were initially motivating, challenging, and full of prestige become idle, pointless or even a burden. Although, changes sometimes are brief and at other times rather extensive, situations as well as conditions and the perception about them tend to change over the project lifecycle.

Other organizational aspects that the respondents commonly argue as endorsing feelings of motivation and stress are: The number of projects simultaneously assigned to, the size of the projects, the possibilities to influence work role and tasks and relate them to the project outcome, as well as the presence or absence of managerial feedback [27].

4.2. Focusing on the connection between goals and perceptions of motivation and stress

Focusing on goals additionally brings forth motivation. This study indicates that individuals' inspiration and motivation increase when goals are clear and made explicit. Nevertheless, incidents that might change set goals occur continuously within the project and its environment. In order to reach formulated goals, the project is dependent on the participants' commitment to work towards these goals. However, this study suggests, when incidents induce changes to what one is committed to and imply that individuals have to adjust, maybe rearrange order of priorities or totally shift focus towards new goals, the situation seems to be quite stressful. So, even if the focus on goals brings about motivation, changes on the descriptions of aims seem to provoke stress.

4.3. Type of incidents

The different types of incidents referred to vary in their relative scope of impact when including both goals and perceptions of motivation and stress. It is common that: (1) valuable resources vanish, and the project does not get compensation; (2) other organizational duties take more time or energy than expected. These could be for example organizational projects, quality and union work, administrative issues and so on; (3) the project or oneself is betrayed, e.g. when promised resources are not assigned; (4) design-loops go in circles, meaning that people have to re-define tasks or goals, repeatedly; (5) project-owner changes preferences; (6) others depend on one's help, if one possesses special knowledge on specific issues; (7) other projects are prioritised, due to new strategies, policy etc.; (8) project is closed down prematurely; (9) individuals become sick or have to take time off. Such incidents evidently have impact on the individuals' perceived stress. However, perceptions differ between the project managers and team members. To demonstrate this, let us look at the incident of a valuable project resource vanishing. When asking what an individual reaction such an incident would cause, project managers referred to feelings of frustration and intense pressure, as they mean they have to ensure the project outcome anyway. Project managers usually try to handle these feelings by arguing for compensation for the impairment of the performance outcome. Team members describe these situations feeling overloaded with somebody else's work tasks, as these have to be performed somehow. Often, team members also blame project managers for not securing the resources accounted for.

4.4. Coping with incidents and stress

Project managers often seem to have reasonable explanations and coping strategies of both, their own and members' reactions to incidents and situations. They also seem to be eager to share their explanations with subordinates, and a couple of the project managers discuss experiences of stress and frustration with peers regularly. At times they express their concern about team members being unduly pressured to the steering committees. Occasionally, project managers have requested steering committees to make necessary prioritisations, so they themselves could reduce their own uncertainty and better guide the team members' work. Two project managers reported that they had neither shared issues of stress with peers nor involved superiors for help, but, of course, had experiences of coping with stress. Their solution to the problem was to rely on their own solid experience and prior outcomes.

One of the project managers had gone through long periods of perceived uncertainty and pressure. In retrospect, he talks about these periods as having been very motivating; so much that he worked almost all the time. Leisure time became work time and although he had fun, his body, reacting with back pain and migraine,

showed him his limits at the end of each of these extensive work periods.

The team members rely greatly on a project manager's ability to analyse risks affecting the project and its goals. One general assumption among the respondents was that incidents happen all the time. Similarly, people said that much effort is put on cutting tops of work tasks necessary to complete immediately. The term "*firefighting*" is used frequently, when the team members talk about how they handle work tasks. The team members were keen on referring to experiences of co-workers coping with stress, for which they had many examples. Several argue that they cope rather well with the demands and uncertainties they face. The team members' coping strategies are multifaceted. Some examples are: pushing project manager to make prioritisations or define goals, devote extra time to figure out possible solutions to suggest to the project manger, ignorance of risks, comfort from colleagues or family, use time frame as solution, imaging suggestive scenarios like new projects, or resources falling from the sky etc.

4.5. Time of crisis and goal concretize

Those team members, who were involved in product development projects with higher technological uncertainty, where the goal on performance is not realized until later on in the process, emphasized that the perceived stress is extensive before goals are clearly defined. The level of experience in project work seems to have been a decisive factor in the choice of coping strategy. Obviously, team members on product development projects experience some sort of crisis in the middle of the set time frame. Eventually, when a goal is defined, the team members argue, this goal is seldom changed and carefully protected from incidents and their possible effects. However, the project managers all felt that pressures and feelings of stress were more extensive in the beginning and in the end of the projects. Thus, team members and project managers experience the highest pressure in completely different phases of product development projects.

Dealing with the time pressure sometimes implies that project participants have to work overtime. Interviewees also reported on perceptions of rewards' or incentives' impact on perceptions of work situations and conditions. Efforts commented by project managers' matter to team members and how they feel about their work. If feedback was given, it was usually on technological issues, seldom on problem solving or matters of relations. Project managers refer to better chances of achieving the same role in a more prestigious project next time. However, more informal or even self-inflicted incentives seem to be at work. Two of the most experienced project managers informed us about the personal talks that they had with each of the team members in their project, on regular basis, which were motivating to team members.

4.6. The multi-project environment

Similar to motivation and stress, people react differently to a multi-project context. While some members told us working in several simultaneous projects was no problem, another one said: "*...this was no fun, and it is nothing that can be done regularly, since it is too costly for the individual well-being*".

5. Discussion

Evidently, the interviewed project managers and team members are motivated in their work. The team members have faith in their work and their project managers to help them cope with demanding situations. The project managers rely upon experiences, peers and superiors to help ease up situations for themselves or their team members. Nonetheless, there are times when life in the project is hectic and individuals' perceptions of working conditions are affected negatively. Occasionally the project work can be too motivating and become destructive to individuals' well-being.

The empirical findings suggest that different incidents occurring within a project or its surroundings negatively affect the studied individuals' perceptions of the work situation, and their state of mind. However, respondents tend not to distinguish their perceptions to the different types of goals inwrought in what influences their work motivation: they jump from project specific goals to organizational or process goals. This has implications for analysing changes of the project triangle goals and explicitly on the incidents' impact, as the respondents' perceptions of motivation and stress not solely can be connected to these goals. Making interpretations of the incidents' relative impact on project goals would be an interesting approach but requires different methods of investigation. It is, however, possible to categorize the different types of incidents discussed above.

The following section lists, without relative order of impact, the different types of incidents a project encounters with negative effect on the perception of working conditions.

5.1. Categorizations of incidents

The following primary categorization is based on the patterns emerging during content analysis, and represent the underlying reasons that trigger or influence a change in the individual's perception of the working conditions in a project. Thus, the incidents' relative impacts on the perceived motivation or stress are not taken into account. The incidents referred to are:

1. The vanish of valuable resources
2. The dry-out to other organisational duties
3. The betrayal of project or self
4. The circling design-loops
5. The changes in project-owner preferences
6. The assistance others depend upon
7. The prioritising of other projects
8. The premature close down of projects
9. The human absence

These incidents can either relate to problems of resource or priority character. So, two broader categories emerge out of the primary categorization. The incidents linked to resource allocation problems are the primary categories nos (1), (3), (5), (6), and (9). The incidents related to priority problems within the organisation are the primary categories nos (2), (4), (7), and (8).

Clearly issues of resource and priority affect individuals' motivation in project work. Dealing with upcoming incidents implies applying diverse coping strategies. There are both individual and organizational coping strategies followed by the studied individuals and in their companies.

5.2. Coping with incidents affecting perceptions of motivation and stress

Evidently, the individuals' participation in the forming and understanding of the project objectives, as their understanding of the time frame and its realism, is of great importance. It matters to their perceptions of being motivated or not and whether the overall project is experienced as stressful or motivating.

Further, both individual and organizational coping strategies are in use. One example of an organizational coping strategy generally adopted in the studied companies, is risk management. However, the depth of the strategies applied varies. Some risks tend to be discussed and managed, resulting either in strategies of different actions that could be taken, or not to change behaviour (and proceed the project as planned). But, far from all risks present are being managed. Nonetheless, if it is somewhere strategies of how to manage risks should be prevalent it is in the project context [19,22]. Also, when regarding the multiple-project environments, these are efforts necessary to put in recurrently. Assuming that incidents might impose changes on project priorities and taking the organizational coping perspective, there might be considerable benefits of making it a cyclic process, continuously revised, as the projects progresses [26].

In theory, the advantage of risk management is obvious, but in a real project context, never-ending cyclical processes become utopian. This is because any project has by definition a deadline, implying that time and costs are limited. Managing risks is both time-consuming and costly. Consider for example, if the risk in focus resulted in performance changes of the project outcome. At a certain level, the less prioritised concepts of the project priority triangle (in this case, time and costs) will counteract the concept higher prioritised (performance). At some point, the time frame and/or the costs become threatened. A threat, which in turn creates other types of risks that drain the projects' set term and budget [19]. Consequently, risk management in project terms only can be devoted to the degree of resources planned and budgeted for this purpose. So far, even if an important managerial issue, risk management rarely has an own budget account. Strategies dealing with incidents occurring after freezing the priorities or goal, such as changes in performance of the project outcome seem to a larger extent being present and used.

Regarding the individual coping strategies, the incidents have various impacts on the perceptions of working conditions. It is evident, however, that individuals and project organizations use a mixture of strategies to cope with changes and project stress. Motivation is the driving force to project completion and success, nevertheless individuals have to adapt to and parry reactions of incidents in the organizational context. Motivation is what decreases and shifts during the project duration [21]. The focus on project goals brings fourth motivation but even so, changes in the description of the aim provoke stress. Consequently, if or when incidents induce changes in aims and such incidents have to be regarded and acted upon frequently; this is negatively related to the motivation experienced. The individuals' self-commitment is also at stake if the stability is threatened. Other individual coping strategies in use are the sharing of troubles with peers, which reduces insecurity and stress for the project manager. Those practicing this strategy value this way of stress reduction efforts as effective. Regularly held peer-discussions on these issues, might be an effective tool for project managers to cope with these types of problems. The dialogs regularly held between project managers and team member would serve the same purpose for team members.

An alarming result of the study, are the previously mentioned "firefighting" strategies, which just by their presence and rhetoric's reduce motivation. If used recurrently in multi-project environments, companies will drain the energy from their most valuable assets—the individuals. In aggregation, the number of projects an individual is assigned and the number of incidents the project and its participants' encounter, as well as the organizational support and risk management involved, all contribute to the perception of the working conditions for people in projects.

The general democratisation and newer managerial approaches could result in "the good work" as individ-

uals' within organizations benefit through increased work control, better usage of education and competence development as well as increased job satisfaction and motivation. However, when the demand of higher commitment is made explicit, there is a risk that individuals intrinsically motivated, are set in situations where they find themselves pressured and put pressure on others through more responsibilities and self-inflicted work pressure. These are circumstances under of which the intentions of "the good work" thoughts consequently erode.

6. Concluding remarks

It can be concluded that incidents influence individuals' perceptions of working conditions in projects. Apparently, adapting to changes takes time and efforts and there is always a risk of loss in motivation, commitment, and self-esteem. As shown in this article, motivation and stress could therefore be destructive and obstruct effective goal fulfilment if neither directed towards relevant targets nor managed as risks.

A primary categorization of the different types of incidents a project encounters is suggested. The primary categories all have a negative impact on the individuals' motivation and consequently also their perceived working conditions, and are related to problems of resource allocation and priorities within the project organisation. In conclusion, incidents recurrently happening during the lifecycle of projects become decisive for how individuals perceive work situations.

7. Further studies

Directly influenced by the present study and interesting for the future would be to classify the incidents found with respect to project content and project contextual issues. Finding methods for assessing the relative impact on individuals' perceptions of motivation dependent on the various incidents found, would additionally be interesting. Moreover, how do individuals cope with recurrently engaging in new challenging projects time after time? How does the employment of the project form make organizations sustainable when no stability is offered to the individuals?

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References

[1] Ekstedt E, Lundin RA, Söderholm A, Wirdenius H. Neo-industrial organising: renewal by action and knowledge formation in a project-intensive economy. London: Routledge; 1999.
[2] Packendorff J. Inquiring into the temporary organisation: new directions for project management research. Scandinavian Journal of Management 1995;11(4):319–33.
[3] Frame JD. Managing projects in organizations: how to make the best use of time, techniques and people. San Francisco: Jossey-Bass; 1987.
[4] Engwall M. Jakten på det effektiva projektet [In search of the effective project: on project management in business and public administration]. Stockholm: Nerenius & Santérus förlag; 1995.
[5] Gersick CJG. Time and transition in work teams: toward a new model of group development. Academy of Management Journal 1988;31(1):9–41.
[6] Gersick C, Eisenstat R. In: Hackman JR (Editor). Groups that work (and those that don't): creating conditions for effective teamwork San Francisco (CA): Jossey-Bass; 1989
[7] Pinder CC. Work motivation and organizational behavior. Upper Saddle River (NJ): Prentice Hall; 1998.
[8] Rissler A. Extended periods of challenging demands in high tech work. Consequences for efficiency, quality of life and health. In: Bradley GE, Hendrick HW, editors. Human factors in organizational design and management—IV. Amsterdam: Elsevier; 1994. p. 727–32.
[9] Anderson SD. Project quality and project managers. International Journal of Project Management 1992;10(3):138–44.
[10] Dunn SC. Motivation by project and functional managers in matrix organizations. Engineering Management Journal 2001; 13(2):3–9.
[11] Kuprenas JA, Jung C-L, Fakhouri AS, Jreij WG. Project manager workload: assessment of values and influences. Project Management Journal 2000;31(4):44–51.
[12] Latham GP, Locke EA. Goal setting: a motivational technique that works. Organizational Dynamics 1979;8:68–80.
[13] Pinto JK. Power & politics in project management. Project Management Institute (PA): PMI Book Team; 1996.
[14] Atkinson R. Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria. International Journal of Project Management 1999;17(6):337–47.
[15] Söderlund J. Time-limited and complex interaction: studies of industrial projects. Linköping University; 2000.
[16] Pinto JK, Prescott JE. Variations in critical success factors over stages in the project life cycle. Journal of Management 1988; 14(1):5–18.
[17] Freeman M, Beale P. Measuring project success. Project Management Journal 1992;23(1):8–18.
[18] Christensen S, Kreiner K. Projektledning—att leda och lära i en ofullkomlig värld [Project Management—to lead and learn in an incomplete world]. Lund: BTJ Tryck AB; 1998.
[19] Turner JR, Cochrane RA. Goals and methods matrix: coping with projects with ill defined goals and/or methods of achieving them. International Journal of Project Management 1993;11(2): 93–102.
[20] Turner JR. The handbook of project-based management. London: McGraw-Hill; 1999.

[21] Cox T. Stress research and stress management: putting theory to work. Sudbury: HSE Books; 1993.
[22] Wikström K, Gustafsson C. Ett skapande KAOS [a creating chaos]. Projektitoiminta 1999;XXII(1):24–5.
[23] Ingelgård A. Stress och coping i arbetslivet [Stress and coping in work life]. In: Ahlin J, editor. Forskningsperspektiven. Stockholm: NUTEK Förlag; 1999.
[24] Lazarus RS, Folkman S. Stress, appraisal and coping. New York: Springer; 1984.
[25] Cox T. Stress, coping and problem solving. Work and Stress 1987;1:5–14.
[26] Schein EH. Organisational psychology. 3rd ed. NJ: Prentice-Hall; 1988.
[27] Blomquist T, Gällstedt M. Working conditions in projects: a study of motivation and job satisfaction among people working in knowledge-intensive projects. In: Proceedings of PMI Research Conference 2002, Seattle, 14–17 July 2002. p. 141–9.